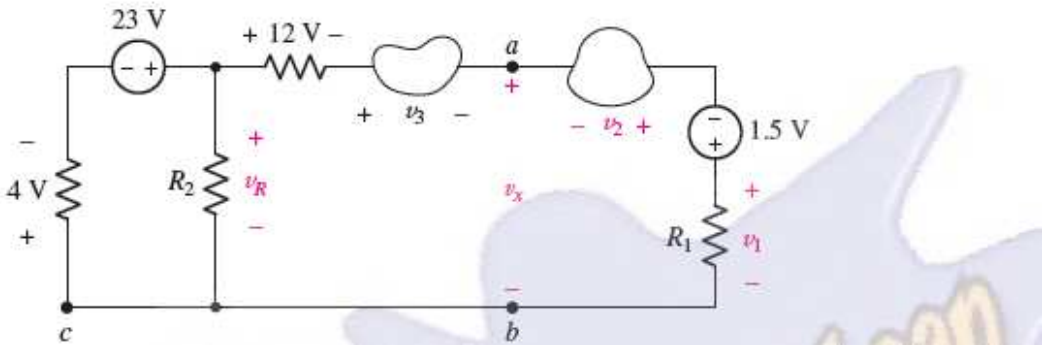
FIGURE 3.59

19. In the circuit of Fig. 3.60, it is determined that $v_1 = 3$ V and $v_3 = 1.5$ V. Calculate v_R and v_2.



23. (*a*) Determine a numerical value for each current and voltage (i_1, v_1, etc.) in the circuit of Fig. 3.63. (*b*) Calculate the power absorbed by each element and verify that they sum to zero.

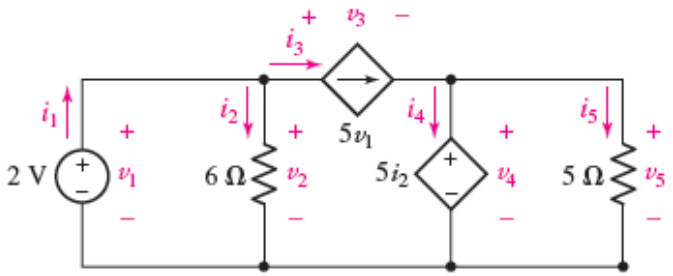


FIGURE 3.63

27. Compute the power absorbed by each element of the circuit of Fig. 3.66.

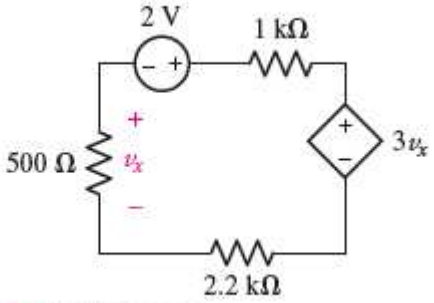


FIGURE 3.66

34. Although drawn so that it may not appear obvious at first glance, the circuit of Fig. 3.73 is in fact a single-node-pair circuit. (*a*) Determine the power absorbed by each resistor. (*b*) Determine the power supplied by each current source. (*c*) Show that the sum of the absorbed power calculated in (*a*) is equal to the sum of the supplied power calculated in (*c*).

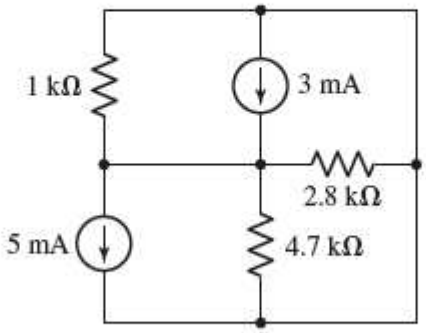


FIGURE 3.73

40. What value of I_S in the circuit of Fig. 3.78 will result in a zero voltage v?

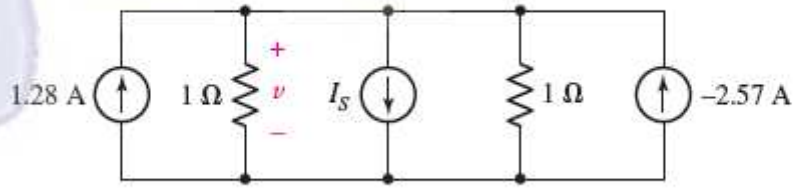


FIGURE 3.78

48. Determine the power absorbed by the 15 Ω resistor in the circuit of Fig. 3.86.

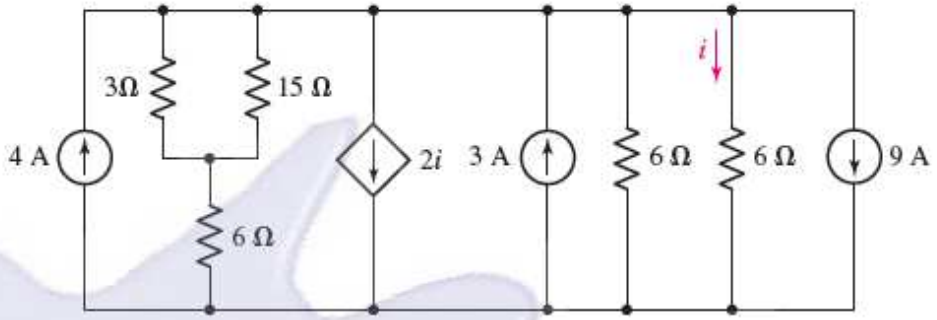


FIGURE 3.86